REMARKS

Claim 141 has been amended to recite a modification of position 402 or at a corresponding position in homologous glucoamylase and to recite that the variant has glucoamylase activity. Claims 144-240 and 242-253 were withdrawn by the patent office, but are now pending as the species election of position 402 is free of the prior art (other than the double patenting rejections). Claim 254 is added. Claim 254 recites a substitution of the positions recited in claim 141. Claims 144-240 and 242-253 are amended to depend from new claim 254. Claims 141-240 and 242-254 are pending.

It is respectfully submitted that the present amendment presents no new issues or new matter and places this case in condition for allowance. Reconsideration of the application in view of the above amendments and the following remarks is requested.

I. SEQUENCE COMPLIANCE

The specification is amended at page 42 to include sequence identification numbers.

II. The Rejection of Claims 141-143 under 35 U.S.C. 112 (Indefiniteness)

Claims 141-143 are rejected under 35 U.S.C. 112, as indefinite. The Office, however, suggests amending the claims to recite the function of the variant to overcome this rejection. Applicants have adopted the Office's suggestion and claim 141 is amended to recite that the variant has glucoamylase activity.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 112. Applicants respectfully request reconsideration and withdrawal of the rejection.

III. The Rejection of Claims 141-143 under 35 U.S.C. 112 (Written Description)

Claims 141-143 are rejected under 35 U.S.C. 112, as lacking written description support. The Office, however, suggests amending the claims to recite that the variant continues to have glucoamylase activity to overcome this rejection. Applicants have adopted the Office's suggestion and claim 141 is amended to recite that the variant has glucoamylase activity.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 112. Applicants respectfully request reconsideration and withdrawal of the rejection.

IV. The Rejection of Claims 141-142 under 35 U.S.C. 102

Claims 141 and 142 are rejected under 35 U.S.C. 102 as anticipated by Allen et al. The Examiner states that Allen et al. teach a deletion of the first 1-25 amino acids in SEQ ID NO:2. Allen et al. does not teach the modification of amino acid 402. As applied to new claim 254, Allen et al. does not teach the claimed substitutions.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 102. Applicants respectfully request reconsideration and withdrawal of the rejection.

VI. The Rejection of Claim 141 under 35 U.S.C. 101

Claim 141 is rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 1 of U.S. Patent No. 6,352,851. This rejection is respectfully traversed.

Same invention-type double patenting is provided by 35 U.S.C. 101, which states "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof may obtain a patent thereof." Same invention type double-patent precludes a second patent if it claims the identical subject matter as another patent. The test for determining whether claims of two patents define the same invention is **"whether one of the claims could be literally infringed without infringing the other. If it could be, the claims do not define identically the same invention."** *In re Vogel*, 422 F.2d 438, 441 (C.C.P.A. 1970). The Federal Circuit has refused to find the same invention-type double patenting based, among other things, "on the absence of cross-reading (whether the claims of one patent can be infringed without infringing the other)." *Studiengesellschaft Kohle mbH v. Northern Petrochemical* Co., 784 F.2d 351, 355 (Fed. Cir. 1986).

Under the applicable test, claim 141 and new claim 254 does not claim the same invention as claims 1 of the '851 patent because claim 1 can be literally infringed without infringing claim 141 or claim 254, e.g., a glucoamylase variant having 70% identity does not infringe claim 141 or new claim 254.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 101. Applicants respectfully request reconsideration and withdrawal of the rejection.

VII. Obviousness-Type Double Patenting

Claims 141-143 are rejected under the judicially created doctrine of obviousness type double patenting as being unpatentable over claims 1-2 of U.S. Patent No. 6,352,851.

Applicants submit a terminal disclaimer to overcome this rejection. Applicants respectfully request reconsideration and withdrawal of the rejection.

VIII. Conclusion

In view of the above, it is respectfully submitted that all claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this amendment or application.

Respectfully submitted,

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Jason I. Garbell, Reg. No. 44,116
Novozymes North America, Inc.
500 Fifth Avenue, Suite 1600
New York, NY 10110
(212)840-0097